

REMARKS

Status Of Application

Claims 1-12 are pending in the application; the status of the claims is as follows:

Claims 1, 3-7, and 9-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Publication No. 2002-308125 to Toshiyuki ("Toshiyuki") in view of Japanese Publication No. 2003-011828 to Fumio et al. ("Fumio et al.").

Claims 2 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Toshiyuki as applied to claim 1 above, and further in view of Japanese Publication No. 07-237266 to Masaaki ("Masaaki").

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received in this National Stage application from the International Bureau, is noted with appreciation.

The indication, in the Office Action, that the Examiner has no objections to the drawings filed on September 16, 2005, is noted with appreciation.

35 U.S.C. § 103(a) Rejections

The rejection of claims 1, 3-7, and 9-12 under 35 U.S.C. § 103(a), as being unpatentable over Toshiyuki in view of Fumio et al., is respectfully traversed based on the following.

The apparatus of independent claims 1 and 6 comprises a resin part "composed of a resin composition having a polyamide resin, as a base resin, containing 10 to 50 % by weight of glass fiber having a diameter in the range of from 5 to 9 μm ." As noted in the Office action, "Toshiyuki fails to disclose the resin part of the resin gear being containing [sic] 10 to 50% by weight of glass fiber having a diameter in the range from 5 to 9 μm " (Office Action,

page 3). The Office Action cites the Fumio et al. disclosure of resin utilizing 5 to 10% by weight of glass fiber and contends that the addition of glass fiber to raise mechanical strength would have been obvious to one of ordinary skill in the art. *Id.* Further, the Office Action states that the diameter of the glass fibers “would be chosen as a result of routine experimentation.” *Id.* Applicants respectfully disagree with both contentions.

In the Fumio et al. disclosure, the range of 5-10% by weight of glass fiber is stressed in order to limit the risk of potential damage and wear to the gear posed by increasing this weight percent. (para. 13). Further, Fumio et al. claims a resin containing 10% by weight or less of the glass fiber. (claim 3, emphasis added). Thus, Fumio et al. teaches away from the addition of more than 10% by weight. Therefore, in light of this reference, one cannot conclude that it would be obvious to one of ordinary skill in the art to simply raise the weight percent of glass fiber to maximize the mechanical properties of the resin. MPEP 2144.05(III); *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997) (holding that an applicant may rebut a prima facie case of obviousness created by a prior art reference disclosing a range that touches the range recited in the claim by establishing “that the art in any material respect taught away” from the claimed invention).

As the disclosure indicates, generally commercially available glass fiber contained in resin has a diameter of 10 to 13 μm . The present application discloses utilizing glass fiber with a thinner diameter of 5 to 9 μm . The result is an unexpected increase in mechanical strength and enhanced resistance to water absorption. Neither of the cited references suggest that decreasing the diameter of the glass fibers will have this desired effect. Thus, there is no demonstration that one of ordinary skill in the art would have been motivated to make this modification to the diameter. MPEP 706.02(j). Further, the unexpected properties observed in this range of diameters is sufficient to rebut the claim that the optimal value for the diameter could be ascertained through routine experimentation. MPEP 2144.05(III); *In re Geisler*, 116 F.3d at 1469 (holding that a prima facie case of obviousness may be rebutted by establishing “the existence of unexpected properties in the range claimed”).

Moreover, it should be stressed that the obviousness of the present invention should not be considered by viewing either variable discussed above in isolation. Rather, the ingenuity is in the combination of the glass fiber geometric dimensions and weight percent utilized in the resin part of the resin gear to achieve the maximum desired mechanical properties. The result is the discovery of a power steering device that limits wear to the gear mechanism under high pressure and velocity environments. This discovery was not made through routine experimentation. Rather, as depicted in Figures 9-12, these parameters were determined through detailed and systematic tests yielding unexpectedly superior results. *See In re Soni*, 54 F.3d 746, 751 (stating “[g]iven a presumption of similar properties for similar compositions, substantially improved properties are *ipso facto* unexpected”). This development, combining the use of higher weight percents of glass fiber in conjunction with thinner glass fibers, is neither taught nor suggested by either Fumio et al. or Toshiyuki. MPEP 2143.03; *see KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731 (2007) (noting the importance of identifying “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed invention does”); *Crown Operations International, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1376 (Fed. Cir. 2002) (stating that the “determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention”). Therefore, the resulting claimed parameters should not be viewed as obvious in light of these references. MPEP 706.02(j).

Claims 3-6 and 9-12 depend directly from either nonobvious claim 1 or 7. Accordingly, it is respectfully requested that the rejection of claims 1, 3-7, and 9-12 under 35 U.S.C. § 103(a) as being unpatentable over Toshiyuki in view of Fumio et al., be reconsidered and withdrawn.

The rejection of claims 2 and 8 under 35 U.S.C. § 103(a), as being unpatentable over Toshiyuki as applied to claim 1 above, and further in view of Masaaki, is respectfully traversed based on the fact that claims 2 and 8 depend directly from either nonobvious claim 1 or 7. Accordingly, it is respectfully requested that the rejection of claims 2 and 8 under 35

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U.S.C. § 103(a) as being unpatentable over Toshiyuki as applied to claim 1 above, and further in view of Masaaki, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin LLP Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

By: / Thomas N. Tarnay/ Reg. No. 41,341
Thomas N. Tarnay
Registration No. 41,341
Attorney for Applicants

TNT/llb:bar
SIDLEY AUSTIN LLP
717 N. Harwood, Suite 3400
Dallas, Texas 75201
Direct: (214) 981-3388
Main: (214) 981-3300
Facsimile: (214) 981-3400
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